

Proposed Rule Amendment

10 CSR 20-7.015 Effluent Regulations
&
10 CSR 20-7.031 Water Quality Standards

Missouri Department of Natural Resources
Water Protection & Soil Conservation Division
Water Protection Program

Wetlands--EPA letter

■ Page 15

- “In the 1993 revisions..., the State modified the application of its existing designated use criteria for classified waters of the State by eliminating the application thereof to wetlands adjacent to classified waters.”
- “The State can address this disapproval by restoring language removed in 1993, clarify that State [WQS] are applicable to all wetlands which are waters of the U.S. and specify how those standards are to be applied to wetlands.

Wetlands--Draft Rule

- (4)(A)[6.]5. Page 8
 - Revisions reflects a more detailed method for how wetlands could be assigned specific criteria.
- (1)(C)12-15 Page 4-5
 - Beneficial uses currently are listed in WQS.
- (1)[(F)](G)7. Page 5
 - Class W definition.
 - U.S. Army Corps of Engineers Wetlands Delineation Manual (January 1987).
- (1)[(X)](AA) Page 6
 - Wetlands definition

Site-Specific Criteria for Dissolved Oxygen--EPA letter

■ Page 16

- Paragraph (4)(A)3. “provides an exception to the application of the State’s specific criteria... when natural upstream concentrations of [DO] are below the applicable criteria.”
- “...State regulations do not include a clear definition of what constitutes ‘natural’ conditions nor has the State developed or adopted detailed procedures which describe how this provision is to be implemented.”
 - “...clarify that background concentrations are due only to non-anthropogenic sources.”
- State must provide EPA the opportunity to review & approve.

■ CD page 4, section III.5.a.

Site-Specific Criteria for Dissolved Oxygen--Draft Rule

- (4)(A)3. Page 7
 - Deleted paragraph 3.
- (4)(R) Page 11-12
 - Site-specific criteria development for the Protection of Aquatic Life.
 - Combination of U.S. EPA, Kansas, Iowa, and Nebraska methods.
 - Three appropriate conditions:
 - Natural adaptive processes.
 - Composition of AQL is different.
 - Physical &/or chemical characteristics of water body.

Analytical Method for DWS Metals--EPA letter

■ Page 17

- “The State’s expression of...criteria for metals as dissolved metals for the protection of human health through the consumption of both organisms and water is not consistent with EPA guidance and represents a less protective approach.”
- “...the State provided no supporting scientific information regarding [the current] approach...”
- “The State must either provide information...or revise these criteria such that they are expressed as total recoverable metals.”

■ CD page 4, section III.5.b.

Analytical Method for DWS Metals--Draft Rule

■ (4)(B)2.B. Page 8

- Iron, manganese, silver, and zinc--dissolved metals
 - Secondary Drinking Water Regulations (SDWR).
 - Missouri's WQ criteria for these are based on SDWR.
 - "Non-enforceable Federal guidelines regarding cosmetic effects (such as tooth or skin discoloration) or aesthetic effects (such as taste, odor, or color) of drinking water."
[2004 Edition of the Drinking Water Standards and Health Advisories, EPA 822-R-04-005]
- All others--total recoverable metals
 - Human health based criteria

Criteria for the Protection of Aquatic Life--EPA letter

■ Page 17

- “EPA is disapproving 21 WQ criteria for the protection of aquatic life for cadmium, copper, lead, and zinc.”
- “...aquatic species not resident to Missouri waters and species determined by MDNR to be absent from waters designated under the specific subcategories of aquatic life uses were deleted from the pollutant-specific toxicity database used to calculate WQ criteria.”
- Table listing criteria based on “middle” hardness level is not protective.

■ Table 3, page 1 & 3

■ CD page 4, section III.5.c.

Criteria for the Protection of Aquatic Life--Draft Rule

- (4)(B)6. Page 9
 - Added sentence that AQL metals criteria can be found in equation format in Table A.
- Table A Page 15-17
 - Cadmium, Chromium III, Chromium VI, Copper, Lead, Nickel, Silver, Zinc are recalculated.
 - Equations.
 - Table of criteria values based on lowest hardness value in given range.

Criteria for Human Health-Fish Consumption--EPA letter

■ Page 19

- “Where the State adopted criteria less stringent than EPA guidance criteria, the State did not provide scientific justification demonstrating that these criteria are protection of human health consistent with requirements at 40 CFR 131.6(b) and 131.11(a) and (b)(1)(iii).”
- “For one pollutant group, trihalomethanes, the State deleted the human health criterion without any justification.”

■ Table 3

■ CD page 4, section III.5.d.

Criteria for Human Health-Fish Consumption--Draft Rule

■ Table A Page 18

- DDT and metabolites, bis(chloromethyl)ether, pentachlorobenzene
- Trihalomethanes
 - Bromoform, chlorodibromomethane, and dichlorobromomethane existed in current WQS.
 - Chloroform added in draft.
- Based on EPA's 1999 Nationally Recommended Criteria for organism only with a 10^{-6} risk factor.

Criteria for Drinking Water Supplies--EPA letter

■ Page 19.

- “EPA is also disapproving 9 State WQ criteria for the protection of the State’s DWS use which the State has not shown as protective of human health through exposures to contaminants in water and fish.”
- They are less stringent than the Safe Drinking Water Act (SDWA) Maximum Contaminant Level (MCL) or EPA’s section 304(a) criterion.

■ Table 3.

■ CD page 4, section III.5.e.

Criteria for Drinking Water Supplies--Draft Rule

■ Table A. Page 18

- 2,3,7,8-TCDD dioxin; 1,2-dichloropropane; DDT and metabolites; bis(chloromethyl)ether; pentachlorobenzene; and tetrachlorobenzene.
- Based on EPA's 1999 Nationally Recommended Criteria for organism plus water with a 10^{-6} risk factor.

Designated Waters for Cold Water Fishery--EPA letter

■ Page 19.

- “...the State modified its classification of six streams as Cold Water...Fisheries as listed in Table C...”
 - Three streams had reduced mileage.
 - One lake and 2 streams were removed from Table C.
 - Tables C, G, & H differ in the listing of CDF.
- A Use Attainability Analysis (UAA) must be submitted should the reduction in mileage or removal of designation be accurate.

■ CD page 5, section III.5.f.

Designated Waters for Cold Water Fisheries--Draft Rule

■ Table C. Page 24

- Added:
 - Bulls Shoals Lake (Ozark County)
 - Indian Creek (Franklin & Washington Counties)
- Returned original mileage:
 - N. Fk. White River (Ozark County)
 - S. Indian Creek (Newton & McDonald Counties)
 - Spring Creek (Douglas & Ozark Counties)
- Turnback Creek: Name was corrected in previous revision to Turkey Creek. No change needed.

Designated Beneficial Uses-- EPA letter

- Page 20.

- “Modifications to 10 CSR 20-7.031 Tables G & H resulted in the deletion of designated uses for a number of classified lakes and stream segments or the removal of classified waters altogether.”
- “Such omissions must be supported by approvable [UAAs]...”

- Tables 4.1 (Lakes) and 4.2 (Streams)

- CD page 5, section III.5.g.

Designated Beneficial Uses-- Draft Rule

■ Table G.

- Beneficial uses re-added due to no evidence.
- Turner Lake = Shawnee Lake
- Ziske Lake = Mac Lake
- Pomona Lake never existed (built on a losing stream).

■ Table H.

- Big Buffalo Cr. = segment split differently
- Brush Cr. = segment split differently
- Brushy Fk. = Brushy Cr.
- Calico Cr. = segment split differently
- Flat Cr. = segment split differently

Antidegradation of ONRW-- EPA letter

- Page 21.

- “Provisions at 10 CSR 20-7.031(7)...would allow discharges of ‘new releases’ from publicly-owned waste treatment facilities and mine dewatering water that would result in the water quality of the Outstanding National Resource Water (ONRW) not being maintained and protected (i.e., a lowering of water quality), and, thus, are inconstant with both federal regulations at 40 CFR 131.12(a)(3) and the State’s own antidegradation policy at 10 CSR 20-7.031(2)(C).

- SA page 3, paragraph 3.a.

Antidegradation of ONRW-- Draft Rule

■ WQS

- (7) Page 12
 - Exceptions of POTW and mine dewatering deleted.
- (8) Page 12-13
 - Similar language added.

■ ER

- (6) Page 4-5
 - All discharges first consider non-discharging options.
 - Should non-discharging not work, shall meet requirements of Tier III Antidegradation protections.

Designation of WBCR Use -- EPA letter

■ Page 22.

- “Section 101(a)(2) of the CWA establishes as a national goal ‘water quality which provides for the protection and propagation of fish, shellfish, and wildlife and...recreation in and on the water,’ wherever attainable.”
- “The State may correct this deficiency by (1) either revising its use classifications to protect fishable/swimmable uses for all classified waters of the State, or (2) conduct a more thorough analysis of use attainability sufficient to rebut the ‘rebuttable presumption’ reflected in the regulations.”

■ SA page 3, paragraph 3.b.

Designation of WBCR Use-- Draft Rule

■ WQS

- (1)(C)8. Page 4
 - All waters in Tables G & H are proposed for WBCR designation.
- Table G
- Table H

■ ER

- Implementation schedule
 - (2)(B)4. Page 3
 - (3)(B)3. Page 3
 - (8)(B)4.A. Page 5
 - (9)(H) Page 6

Bacterial Indicators for WBCR

--EPA letter

- Page 24.
 - “...the Region strongly encourages Missouri to move to adopt EPA’s 1986 updated bacteriological ambient [WQ] criteria supporting primary contact recreation uses during the next triennial review period.”
- SA page 3, paragraph 3.c.

Bacterial Indicators for WBCR

--Draft Rule

■ (4)(C) Page 9

- *E. coli* criteria added.
 - EPA's 1986 criteria.
 - No *E. coli* criteria for Effluent Regulations yet.
- Criteria added for boating and canoeing use.
- Three year transition period.

■ Table A Page 14

| – | <u>WBC</u> | <u>BTG</u> |
|------------------|------------|------------|
| – Fecal Coliform | 200 | 1800 |
| – <i>E. coli</i> | 126 | 1134 |

Small Variances in Criteria-- EPA letter

■ Page 26.

- “Table 5 of the enclosure contains a list of pollutants, which were revised by the State that denote questionably small differences between EPA based criteria and the State’s numerical criteria.”
- “The State should review these criteria and explain why and how these criteria were selected over EPA’s recommended criteria, ascertain their effectiveness at protecting applicable designated uses, and make necessary corrections that are consistent with EPA guidance criteria under Section 304(a) of the CWA.”

■ Table 5.

Small Variances in Criteria-- Draft Rule

■ Table A Page 18

- Human Health-Fish Consumption Criteria.
 - Chlorodibromomethane; bromoform; 2,4,6-trichlorophenol; tetrachloroethylene; n-nitrosophyrrolidine
 - Based on EPA's 1999 Nationally Recommended Criteria for organism only with a 10^{-6} risk factor.
- Drinking Water Supply Criteria.
 - Methylene chloride & tetrachloroethylene.
 - Based on EPA's 1999 Nationally Recommended Criteria for organism plus water with a 10^{-6} risk factor.

Revisions to Table G-Lakes & Table H-Streams--EPA letter

■ Page 26.

- The department should “provide a complete list of all proposed changes and explanations regarding those changes as part of the public record...”
- “The reduction of lake acreage and shortening of a stream segment may constitute a reduction in the protection (i.e., a partial removal of a designated use) that was accorded those waters initially.”
- Additional comments not addressed at this time.

■ Tables 6.1 and 6.2

Revisions to Table G-Lakes & Table H-Streams--Draft Rule

■ Table G

- Ben Branch Lake = 1 acre restored.
- Higginsville S. Lake = Previous listing restored.
- Malta Bend Community Lake = Previous listing restored.
- Roby Lake = Previous listing restored.

■ Table H

- Brush Cr. = Previous listing restored.
- Brushy Cr. = Previous listing restored.
- Long Br. = Divided into 2 segments.
- Mill Cr. = No change can be found.

Site-specific Criteria--EPA letter

■ Page 27.

- “Current approaches to site-specific criteria development and implementation at 10 CSR 20-7.031(4)(A)3., (B)1., (B)5., and (L)3. do not provide formal adoption into the State’s water quality standards or subsequent submission to and approval by EPA.”
- “The State should consider revisions to Chapter 7 to address this issue or develop detailed procedures describing the development process as part of its next triennial review.”

■ SA page 3, paragraph 3.d.

Site-specific Criteria--Draft Rule

- (4)(A)[3.] Page 7
 - Dissolved oxygen site-specific language deleted.
- (4)(B)1. Page 8
 - Tables A & B site-specific language deleted.
- (4)(B)5. Page 8
 - Human health-fish consumption language kept.
- (4)(L)[3.] Page 11
 - Sulfate and chloride site-specific language deleted.
- (4)(R) Page 11-12
 - Language added for site-specific criteria development for the protection of aquatic life.

Antidegradation Implementation Procedure--EPA letter

■ Page 28.

- “The federal regulation at 40 CFR 131.12(a) requires each state to ‘...develop and adopt a statewide antidegradation policy and identify the methods for implementing such policy pursuant to this subpart.’”
- “...the State has not submitted implementation methods” and “is not in full compliance with 40 CFR 131.12(a).”
- “The State should address the means by which it intends to implement its antidegradation policy...”

■ SA page 4, paragraph 6.

Antidegradation Implementation Procedure--Draft Rule

■ (2)(D) Page 7

- Language added stating that implementation procedures will be developed through stakeholder involvement and referenced by this rule.
- Settlement agreement:
 - "...on or before April 30, 2007, EPA agrees to determine...whether new or revised water quality standards are necessary to meet the requirements of the CWA.

Mixing Zone in Low Flow Streams--EPA letter

- Page 29.

- “EPA believes that allowing mixing zones of any size in intermittent or ephemeral streams, or streams with a 7Q10 of 0.1 cfs or less, might not protect the aquatic life communities under all hydrological circumstances.”
- “The State should consider future revisions to its mixing zone regulations for these streams such that mixing zones would be prohibited.”

- SA page 3, paragraph 3.e.

Mixing Zone in Low Flow Streams--Draft Rule

- (4)(A)/~~5.~~4.B.(I)(a) Page 7
 - “Class C streams and streams with seven (7)-day Q10 low flows of 0.1 cfs or less.”
 - Mixing zone allowance removed.

High Flow Exemption--EPA letter

■ Page 29.

- “The exemption from the application of Missouri’s fecal coliform bacteria criteria at 10 CSR 20-7.031(4)(C) for periods when a stream or lake is affected by stormwater runoff might not ensure that the whole body contact use is adequately protected.”
- “...Missouri’s high flow exemption is broad and qualitative, providing for possibly inappropriate and arbitrary implementation.”
- “We very strongly urge MDNR to review, revise or eliminate this provision...”

■ SA page 3, paragraph 3.f.

High Flow Exemption--Draft Rule

- (4)(C) Page 9
 - Current language deleted.
 - Defined as a catastrophic storm event
 - 25-year, 24-hour storm event.

Definitions--Draft Rule

- (1)(C)9. Boating and canoeing Page 4
- (1)(E) Catastrophic storm event Page 5
- (1)(**H**) Early life stages Page 5
- (1)/~~(M)~~/**(O)**1.-4. Low-flow conditions Page 5
- (1)(**T**) Reference lakes or reservoirs Page 6
- (1)(**W**) Water effect ratio Page 6
- (1)/~~(T)~~/**(X)** Water hardness Page 6
- (1)(**Z**) Waters of the State Page 6

GSRAD Name Change--Draft Rule

- Division of Geology and Land Survey (DGLS) became the Geological Survey and Resource Assessment Division (GSRAD).
- WQS
 - (1)/[(L)](~~N~~) Page 5
 - Losing stream definition.
- ER
 - (1)(A)3. Page 3
 - List of losing streams in Table J.
 - (7)(C) Page 5
 - Effluent limitations for subsurface waters.

Total Ammonia Nitrogen-- Draft Rule

- (4)(B)7. Page 9
 - Language added for implementation.
 - Combination of U.S. EPA and several other states' methods.
- Table B Page 19-23
 - Based on EPA's 1999 WQ criteria.

Standard pH Units--Draft Rule

- (4)(E) Page 10
 - Added language stating that pH is measured in “standard pH units.”

Sulfate + Chloride 7Q10 Repeated--Draft Rule

- (4)(L)1. Page 10
 - Deleted “at the seven (7)-day Q10 low flow” since it appears at the beginning of the paragraph.

Groundwater Designated Use Clarification--Draft Rule

- (5)(A)-(D) Page 12
 - Replace “Column I,” “Column II,” and “Column VII” with the actual name of the column.
 - Column I = protection of aquatic life
 - Column II = protection of human health-fish consumption
 - Column VII = groundwater

Section Title--Draft Rule

- (10) Page 13
 - Added section title for easier reference.

Column Clarification--Draft Rule

■ Table A Page 14-18

- Clarify column headings with actual acronym instead of Roman numeral.
 - AQL = Protection of Aquatic Life.
 - HHF = Human Health Protection-Fish Consumption.
 - DWS = Drinking Water Supply.
 - IRR = Irrigation.
 - LWW = Livestock, Wildlife Watering.
 - GRW = Groundwater.

Outstanding State Resource Waters--Draft Rule

■ Table E Page 24

- Blue Springs Cr.
 - Delete phrase “1.5 miles adjacent to owned lands.”
- Bull Cr.
 - Added designation.

Biocriteria Reference Locations--Draft Rule

- Table I Page 24-25
 - Changes due to water withdrawal for irrigation, accessibility limitations, and refinement of selection processes.

Phosphorus Rule Date Clarification--Draft Rule

■ ER

- Lake Taneycomo rule was adopted May 9, 1994.
 - (3)(F)1. Page 3
- Table Rock Lake rule was adopted November 30, 1999.
 - (3)(G)2. Page 3
 - (3)(G)3. Page 3
 - (3)(G)4. Page 3

Losing Stream Dechlorination

--Draft Rule

■ (4)(B)5. Page 4

- Clarified dechlorination paragraph for losing streams.
- Current exception requires discharge location to be more than one mile from classified stream **and** into a flowing stream with a 7Q10 equal to or greater than 50 times the effluent flow.
 - The above exemption is not known to occur in a losing stream.
- (1)(A)3.
 - “Only discharges...which occur within two (2) miles upstream of the losing section of the stream shall be considered releases to a losing stream.”